Silicon Valley/San Jose Business Journal - October 8, 2001
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SILICON VALLEY / SAN JOSE
Business Journal

Exclusive Reports

From the October 5, 2001 print edition

Valley rallies 'round security

Neil Orman and Tim Roberts

Washington is calling on Silicon Valley to take the lead in developing technology that would make air travel safe again.

U.S. Reps. Mike Honda of San Jose and Jim Matheson of Utah plan to file legislation as soon as Oct. 5 to fund experimental projects at 20 airports. The projects would use cutting-edge security technologies, many of which are available or in development in valley research labs.

Valley companies pitched their own ideas and products at a Sept. 28 session with officials from the Federal Aviation Administration and the FBI. The meeting, called by Mr. Honda, served as a brainstorming session and as an audition of technologies that might take part in creating the ultrasecure air travel of the future.

Mr. Honda says valley technology will be at the center of any response to the Sept. 11 terrorist attacks.

"The full solution will take time," he says. "But we have to get started."

One advantage of Silicon Valley companies is that some are already at work on technology the federal government would call on for increased security at the nation's airports. Another valley advantage is that collaboration on a common technological goal is one of its chief strengths.

Some of the valley's top talent is rallying around the challenge in the way they came together in their research labs and garages in years past to produce the Internet, the personal computer, computer networking and encryption.

The next big thing has become airline security.

"I believe that collaboration on this problem will be a way to deliver solutions readily," says John LaBry, a Department of Energy account manager for computer workstation maker SGI, one of 24 companies attending the Sept. 28 meeting.

The valley's vast experience with computer networking will be particularly helpful in creating an integrated approach to airport security.

The current approach to airport security has several problems. For example, most airports today use isolated devices such as X-ray scanners and metal detectors that don't talk to each other. Experts say airports need more sophisticated devices that are linked to federal databases and are capable of monitoring the performance of their operators.

In addition, until Sept. 11, U.S. airports scanned baggage only randomly. The reason: cost of personnel and equipment.

"The cost of it would keep it from being an everyday event," says Peter Unsinger, a professor of administration and justice at San Jose State University. Even now, not every piece of baggage is scanned.

The valley already produces many air-travel security devices, including scanners that recognize explosives by measuring the densities of a bag's contents, and detectors that tell the difference between water and liquid explosives. In development is a sugar-cube-size security camera that promises greater image resolution.

The most sophisticated security products on the market today boast features such as connectivity with databases and the capacity for training employees who are using the devices.

The most advanced bomb detectors, from Newark-based Invision Technology, cost about $1 million each. They have those capabilities and also routinely test the operator by making it appear that a potential bomb is present in a bag before showing that it's only a test.

More airport security devices must incorporate these features, says Invision CEO Sergio Magistri. His company also attended the brainstorming session.

Many organizations are playing a role in the rush for new security products.

"The events of Sept. 11 put a new focus on the work that we do," says Robert Jacobsen, program manager for NASA's Air Space Systems Program. "It was informative to me to hear about the technology that Silicon Valley companies brought to the party."

NASA is working on software aimed at making air traffic control more efficient. One aspect of that software would automatically notify air traffic controllers if an airliner veered off its planned route. Now researchers at Moffett Federal Airfield are pushing ahead with development of the program for different reasons.

"The focus was on efficiency of operations," Mr. Jacobsen says. "What we've identified in the last couple of weeks is how that can be used for security."

Tomorrow's airports also need more biometric devices such as fingerprint scanners for validating identity, according to local experts.

Experts envision a time when airline passengers may be required to have their fingerprints scanned as they check in baggage, and again at the boarding gate. The fingerprints then would be checked against a database of known terrorists.

"If you look at airport security, most airports have a couple of X-ray machines, a couple of metal detectors, and some bomb scanners from our company," Invision's Mr. Magistri says. "I think we'll see more of biometric devices. But we also need connectivity with centralized databases, and the older devices will need the same kind of connectivity."

The Sept. 28 meeting attracted a wide range of contributors that may take part in the federal push for improved airline

security. The private companies were joined by officials from the FAA, Bay Area airports, the FBI and representatives from 10 universities, nonprofits and trade associations.

Federal money would speed up development of many of the security products. The Department of Transportation made a secure Web site available to tech companies to provide details of the products they could produce.

Mr. Honda "told us that companies can produce a very short five-page proposal, to get funding for investigation," says Douglas Brown, vice president of business development for Sunnyvale-based Ancore Corp.

"There's been a change in mindset from `Let's do things on the cheap' to `Let's do things right,' " says SGI's Mr. LaBry.

Companies from other regions are sure to also play a role in airport security, but local experts say the valley's networking expertise will be particularly important to creating a more connected, integrated security approach than what now exists.

Companies such as Invision, SGI, Indentix and Ancore already are selling their devices to the FAA. Seven U.S. airports -- including Boston's Logan International, New York's JFK and Chicago's O'Hare -- have installed or ordered fingerprint scanners made by Los Gatos-based Identix to give only authorized airport and airline employees access to security-sensitive areas.

Some valley companies have contracts with the FAA to provide security equipment, and are waiting to see whether those contracts will be assigned emergency priority.

Ancore makes chemical composition scanners, which can detect differences between liquids -- for example, between an Evian bottle full of water and one full of liquid explosives.

The FAA has contracted with the Sunnyvale-based firm to provide "it" with air-cargo scanners for use on the airport tarmac. To determine whether the government wants accelerated delivery, Ancore is waiting for a federal committee to complete its finding on the terrorist disasters.

"We're in low-level discussions with the FAA right now," says Mr. Brown.

Other companies, such as Pixim Inc. of Mountain View, are trying to adapt new technologies for airport security applications. Pixim, another attendee at the meeting, has developed digital imaging chips for making cameras the size of a sugar cube. Company executives say those cameras could be embedded in wireless phones and personal digital assistants, as well as used in covert surveillance at airports and on aircraft.

"We're starting to focus more on security applications since Sept. 11," says Bob Weinschenck, Pixim chief executive.

Until Sept. 11, cost was the biggest hurdle to implementing cutting-edge technology for airport security. That concern has been overwhelmed by the nation's urgent need to feel safe in the air.

"We can't afford to look at the bottom line so much, which has been a focus in the past," Mr. Honda says.

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